DOCUMENT RESUME

ED 076 601 TM 002 581

AUTHOR	Dziuban, Charles D.; Armstrong, John H.
TITLE	Organization and Function in Large City Research Bureaus.
PUB DATE	Feb 73
NOTE	26p.; Paper presented at Annual Meeting of American Educational Research Association (New Orleans, Louisiana, February 25 - March 1, 1973)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Administrative Organization; Educational Administration; *Educational Research; *Organization; *Research Coordinating Units; Technical Reports

ABSTRACT

This study was designed to identify the major organizational and functional dimensions of large city public school research bureaus. Several (14) organizational variables were collected in addition to an indication of what functions were performed. Directors were asked to rank eleven general functions in priority and to provide charts of the organizational structure of their bureaus. Principal components analysis yielded five organizational and five functional dimensions. At least seventy percent of the directors reported that their bureaus performed eleven specified functions ranging from test construction to enrollment studies. Structural analysis showed the number of organizational levels in the bureaus to range from eight to one. In general, the directors assigned highest priorities to instructional and administrative research and the lowest to writing proposals and negotiating with funding agencies. (Author)

FORM 6110

PRINTED IN U.S.A.

FILMED FROM BEST AVAILABLE COPY

ED 076601

TM 002 581

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

ORGANIZATION AND FUNCTION IN LARGE CITY RESEARCH BUREAUS

Charles D. Dziuban

and

John H. Armstrong

Florida Technological University

Presented at the Annual Meeting of
The American Educational Research Association
New Orleans
February 25 - March 1, 1973

ABSTRACT

This study was designed to identify the major organizational and functional dimensions of large city public school research bureaus. Several (14) organizational variables were collected in addition to an indication of what functions were performed. Directors were asked to rank eleven general functions in priority and to provide charts of the organizational structure of their bureaus. Principal components analysis yielded five organizational and five functional dimensions. At least seventy percent of the directors reported that their bureaus performed eleven specified functions ranging from test construction to enrollment studies. Structural analysis showed the number of organizational levels in the bureaus to range from eight to one. In general, the directors assigned highest priorities to instructional and administrative research and the lowest to writing proposals and negotiating with funding agencies.

Background

Recently Fattu (1969) cited several reasons why he felt that the study of educational research organizations was severely limited. Among those were:

1. The absence of a clear definition of "educational research organization," i.e., institute, center, bureau, agency.
2. The existence of few clearly defined objectives (research, field service, etc.).
3. A pervasive lack of interest in research by professional educators.
4. The level of intellectual climate in schools of education.
5. Rather low research priorities established by professional educators.
6. Insufficient funds allocated to educational research as evidenced by frequent reorganization of the United States Office of Education.

In contrast the study of research organizations outside of education has been rather extensive. This is clearly evidenced by frequent investigations in the armed services, the defense department, industry, and in various psychological organizations (Armed Services Technical Information Agency, 1962) (Folger and Gordon, 1962) (Goslin, 1966).

As early as 1902, Rice argued that professional educators should lend their support to a national bureau of educational research:

> "It may be said without any exaggeration, that up to the present time the science of pedagogy has been in its entirety a structure based on no stronger foundation than one of opinions...

> Now that it has been demonstrated that we have a ready means of learning with what success each teacher is meeting, and therefore the basis for studying why certain schools are successful and others are not, there ought to be no delay in taking advantage of it. But who is to do the work and who is to pay for it?"

Thus educational research organizations are not new. Many such bureaus were formed when Rice suggested a national bureau of educational research. Somewhat later he was instrumental in the formulation of the Society of Educational Research, but his plea for a national assessment was never fully realized. His efforts did trigger The Association of Directors of Educational Research, an organization which eventually evolved into the American Educational Research Association.

Some Research Studies

Early in the present century Nifenecker (1918) cited data from various surveys within the New York City Public School System and recommended the establishment of a bureau of investigation and appraisal. That recommendation was immediately acted upon and a Division of Research and Reference was formed in September, 1913. In general, however, the early reviews of educational research were of a general nature--characterized by a great deal of zeal and enthusiasm, but little by way of empirical findings. Chapman (1927) cited seven cities as having bureaus which were prominent in the school efficiency movement: (1) Rochester, New York; (2) New York City; (3) Boston; (4) Kansas City, Missouri; (5) Detroit; (6) Chicago; and (7) Lincoln, Nebraska. He went on to

classify bureaus by their degree of specialization in testing, their psychological approaches, and their reference services. Chapman's early taxonomies, however, seemed to hold little promise as descriptors for the classification of bureaus. Monroe, et. al., (1928) directed their early work to a summary of past research activities, but that study, in reality, was a document on the curriculum, its content, methods of instruction, and provisions for individual differences.

Later, the functions of those and other bureaus became the topic of a small number of studies. Herbst (1931) found that 75 percent of the approximately sixty bureaus he surveyed listed achievement testing, mental testing, classifying pupils, and conducting surveys as their major functions. He also found that the directors of the bureaus rated those functions highest in priority. Zergel (1933) found from a survey that bureaus performed functions which he did not consider to be of a research nature. They consisted of compilation of data, achievement testing, and classification of pupils. Carr (1936) discovered that salaries in bureaus tended to go up with the size of the city. Scates (1938) enumerated three "factors" underlying directors' responses regarding their positions: First, there was a lack of a vital connection between the research bureau and the mainstream of problems in the school system; second, the directors were "snowed under" with a mass of detail, and lastly, there was a lack of recognition for the directors. Witsky (1938) claimed to identify the distinguishing characteristics of good public school research bureaus as: (1) their separate organization, (2) their primary function was that of research, and (3) that their common aim was

the improvement of instructional and administrative processes. Lui (1945) concluded from his study that the major functions of bureaus included measurement, statistics, and reference. Symonds (1957) claimed that in spite of chronic disorganization, educational research studies could be divided into two following areas: (1) those that were supported by federal grants, and (2) those that were supported by gifts from foundations. Phillips (1957) surveyed state departments of education and found their most frequent function was that of tabulation. Ryans (1957) studied large city bureaus and concluded their functions to be those of classification of data, record searches, questionnaire construction, and providing descriptive statistics. He found virtually no educational experimentation in large cities; and concluded:

> "It is ironical to say at least that the experiment which is at the very heart of research in the behavioral sciences, plays little part in the activity of researchers in practical school situations."

More recently, Sieber and Lazarfeld (1966) discovered that in university research bureaus a conflict between service and research was perceived as an impediment by directors. Shaw (1967) conducted a study of the role of public school research directors and found:

1. That a masters degree was the most common requirement.
2. That there were very few major and minor field requirements for the position.
3. That approximately 60 percent of the directors reported directly to the superintendent.

McKenna (1966) pointed out that rapid growth in school systems was a correlate of the creation of the position of public school research director. Church (1960) concluded that only 50 percent of the bureaus he surveyed exhibited minimal satisfactory arrangements for research. The National Education Association (1965) conducted a survey of research bureaus in 1964. The following statement was made relative to the responses received:

> "No attempt has been made in this report to compare efforts of, or results achieved by, the 108 research units surveyed. Such an effort would be pointless, since the problems facing each system are unique--as are the means at hand to solve them."

It was pointed out in the study that the size of the bureaus was not affected as much as was expected by the size of the system. It was further reported that 76 percent of the bureau chiefs were directly responsible to the superintendent. A large percentage (50 percent) of the bureaus reported that they did not spend all of their time on research activities.

Data Collection and Methods

Questionnaires were mailed to the fifty largest public school research bureaus in the United States. Thirty-six bureaus returned useable data ($\approx$70%). The directors were asked to provide information regarding the organizational characteristics of their bureaus. Those variables included (1) School System Enrollment, (2) Total School System Budget, (3) Total Research Bureau Budget, (4) Percentage of Bureau Budget

Provided Locally, (5) Percentage of Bureau Budget Provided Federally, (6) Percentage of Bureau Budget Provided by Other Agencies, (7) Number of Professional Employees, (8) Number of Non Professional Employees, (9) Number of Functions Performed, (10) Number of Staff Meetings Per Year, (11) Number of Other Units in the School System Conducting Research, (12) Percentage of Computing Done Outside the Bureau, (13) Percentage of Computing Done Locally, and (14) Number of Levels in the Organization.

An organizational chart of each research bureau was also requested. The bureau chiefs were asked to specify whether their organizations performed each of twenty eight specified functions (Table III) and to rank eleven general functions in priority (Table I).

The intercorrelations among the organizational variables were computed and the matrix subjected to a principal components resolution (Hotelling, 1933). Components were retained corresponding to the eigenvalues of the matrix greater than unity and orthogonally rotated according to the normal varimax criterion (Kaiser, 1958). Pattern coefficients absolutely greater than .4 were used for interpretation purposes. Phi coefficients were computed among the functions performed. That matrix was again subjected to a component resolution. The ranking of the eleven general bureau functions (Table I) was tested for agreement utilizing Kendall's coefficient of concordance (Hays, 1963).

Results

The incomplete component matrix (normal varimax) for the organizational variables is presented in Table II. Component I was indexed by positive coefficients for enrollment, school system budget, research bureau budget,

number of professional employees, number of non-professional employees, and number of levels in the bureau. This component, accounting for 41.5 percent of the variance, was clearly related to the "size" of the bureaus. Component II exhibited positive coefficients for percentage of research bureau budget provided federally, number of functions performed, and number of levels in the bureau. This dimension, accounting for 17.1 percent of variance, was termed "federal support and scope." Component III (variance 14.8 percent) was a bipolar doublet with computing done locally opposed to computing done outside the bureau, a "locus of computing" dimension. Component IV (Variance 13.4 percent) was also bipolar, indexed by bureau budget provided locally and of bureau budget provided by other agencies, and was named "locus of funding." The final component, V, retained in this solution (variance 13.4 percent) was bipolar with number of other units conducting research opposed to percentage of bureau budget provided locally, and number of staff meetings per year. This dimension was related to "bureau organization and other units doing recognized research in the school system."

The list of bureau functions and proportions of "yes" responses are presented in Table III. One function (fulfilling special requests of the superintendent) was eliminated from further analysis since it exhibited zero variance (P=1.0). The results of the incomplete component analysis (normal varimax) are presented in Table IV. Ten components were retained. The first, named supportive services, was substantially correlated with curriculum construction, writing proposals, school community studies, studies of staff relations, studies of curriculum methods, conducting guidance inquiry, and supervision studies. Component two, applied research

functioning, showed that conducting publicity programs was opposed to guiding research studies, test and question construction, conducting instructional research, and federal project evaluation. The third component, psychometric activity, was highly positively correlated with achievement testing, mental testing, test and questionnaire construction, and the development of research techniques. The fourth dimension, administrative research, exhibited positive loadings on surveys of the school system, general administrative studies, and conducting enrollment studies. The final component interpreted, demographic research, was positively correlated with classifying pupils, conducting attendance studies, and maintaining and operating educational data processing facilities. The remaining components, six through ten, were considered residual and were not interpreted. It has been demonstrated that when analyses of phi coefficients are performed additional difficulty components emerge (Henrysen and Thunberg, 1965). They result as an artifact of the proportionality of bureaus performing various specified functions are presented in Table III. Based upon those results the bureaus appeared to perform the following: Guide studies, Construct questionnaires, Devise record forms, Conduct surveys, Train researchers, Conduct attendance studies, Conduct administrative studies, Conduct instructional research, Federal project evaluations, Disseminate results, Conduct enrollment studies, Develop research techniques, Fulfill special requests of the superintendent and other divisions of the school system.

The list of bureau functions to which the directors assigned priority ranks was presented in Table I. The coefficient of concordance for all

respondents was .434. This yielded an average expected Spearman rank order correlation between each pair of directors of .353. A chi square value of 147.36 with 10 degrees of freedom allowed the investigator to reject the hypothesis of no actual agreement among directors at the .001 level of confidence. Remembering that $0 \leq W \leq 1$, the value of W (.434) indicated that there was moderate agreement among the directors as to the priorities for research bureaus. Note, however, that the no agreement hypothesis was rejected, so that it is tenable to conclude that directors do not totally disagree.

The principal component resolution of the ranks among the directors yielded seven components composed of from two to fifteen bureaus (one of which was a doublet). The concordance index for the bureaus included on each component, excluding the doublet, was computed and the priorities for each group were established using the rank sums (only two components, I and III, were bipolar). The results of those analyses appear in Table V. The functions over which there appeared disagreement across clusters were:

1. Administrative Research - Although most groups assigned this function a high priority, the members on one cluster (IV) considered it in low priority. When forced to assign ranks, group four disagreed with the bureau directors in the remainder of the country.
2. Educational Innovations - Most groups assigned this function a high priority except for cluster one, which evidenced a relatively low ranking for the innovation function.
3. Disseminating Results - The members of two clusters (V and VI) assigned the dissemination function a low priority while the rest of the groups assigned it a moderate rank.

4. Training Researchers - Only two groups assigned a moderately high rank to this function.
5. Conducting Testing Programs - Two clusters (V and I) assigned a moderate rank to testing, while the remaining groups rated it rather low.
6. Federal Project Evaluation - This function ranged from moderate to low across the clusters.
7. On-Going Program Assessment - Although most clusters assigned this function a very high rank, two groups (II and III) considered it somewhat lower in priority.

The remaining functions appeared relatively stable in their orders with instructional research enjoying the top priority and negotiating with funding agencies ranked last. Based on these data, there appeared to exist groups of directors who agree on functional priorities for research bureaus, although there tends not to be agreement in the system as a whole.

Bureau Organization

The number of levels ranged from one to eight with a mode of two; ≈44 percent of the bureaus submitting charts had two organizational levels. There are listed in Table VI the locations of the bureaus in the various school systems as indicated in the school system organizational charts. It is apparent that the research bureaus were located in diverse positions in the school systems. The most common areas appeared to be those of instruction, planning and administration, while other areas included finance, a separate division, and a division directly responsible to the superintendent.

There are listed in Table VII some divisions along which the various bureaus were organized. It is apparent that no two bureaus were organized exactly alike, but some trends are readily identifiable. Some were organized around general "kinds of research," i.e., administrative and instructional, testing, survey, and instructional and administrative testing, and psychological. Others have divided along methodological lines, experimental studies, surveys and records. Many bureaus have structured separate divisions for federal programs, while others have incorporated planning sections. Some interesting divisions include those of: early childhood education and educationally deprived children. Some bureaus have incorporated divisions which handle data processing activities separately.*

Discussion

The results of the analysis applied to the organizational variables yielded five general dimensions. The first was that of size and was indexed by variables which reflect the magnitude of the resources marshalled by research bureaus and school systems. There was a positive relationship among general resources, size of the school system, and the size of the bureaus. As the systems tended to increase along those lines the bureaus tended to reflect increased organizational complexity. This seemed congruent with the expectation of "the larger the system, the larger the bureau" and indicated that as the complexity of needs for research activity

---

* Individuals may obtain organizational charts by writing to the senior author.

develops so do organizational arrangements for research. That finding may be interpreted that the development of research bureaus is closely aligned to school system magnitude and that one can expect the more organizationally complex bureaus to be found in the largest systems.

The second organizational dimension was an indication that increased federal support results in research bureaus which exhibit increased scope when that dimension was referenced by the quantity of functions performed as well as organizational complexity. Other sources of funding were not related to this component. It might be conjectured that a bureau which depends heavily on federal sources for funds can be expected to perform more kinds of functions and to be more complex than those supported predominantly from other sources. This phenomenon is very likely a function of the categorical nature of federal funds for research activity in large city public school systems.

The third dimension indexed the general locus of computing done for the bureaus. The bipolar nature of the component showed that a bureau tended to do all of its data processing work on school system facilities or none of it. This parameter may be a referrent to the notion of substantial variance in the degree to which school system data processing facilities have met the requirements of the research bureaus.

The fourth component was evidence of the bipolar nature of sources from which public school research bureaus are funded. Bureaus tended to be either predominantly federally or locally supported. A blending of the various sources was not evidenced. Since locus of funding not only was a common dimension, but also bipolar, it could be logically used as a

categorical scheme for large city public school research bureaus -- at least for their financial characteristics.

The last component interpreted revealed that there existed a classification of research bureau which was substantially locally supported and organizationally complex. The bipolar nature of this component further indicated, however, that in school systems where this phenomenon occurred then other bureaus tended not to conduct research activity. This seemed to evidence a centralization of the research function in school systems where the research bureaus appear to be substantially integreated into the system.

The major functional dimensions of public school research bureaus appear to revolve around the following:

Supportive Services - The information yielded by these activities has been regarded as necessary to organizational decision making but typically has not been considered the primary target of educational research. Although this dimension was derived as the first principal component the highese proportion reported was (.571) for writing proposals while relatively few bureaus performed the remaining activities.

Applied Research Functioning - The variables which were positively related to this component suggested a strong emphasis on applied research in public school bureaus. A large proportion of the bureaus reported that they performed the functions which were opposed to conducting publicity programs. Within the limitations of the items included in the questionnaire it appeared that this component approached educational research as closely as possible although it is still clearly administrative in nature.

Psychometric Activity - This component was related to functions involved in the administration and development of instruments and testing programs. It was also associated with the development of research techniques in the orthogonal case. Large proportions of the bureaus reported involvement in these functions with the exceptions of mental testing.

Administrative Research - This component has been generally assumed relevant to research bureaus and is largely self-explanatory. It is the kind of activity which is necessary to all organizations - the data gathering and arranging function. Again large proportions of the bureaus performed these functions.

Demographic Research - This dimension is a form of administrative research but is related to the data tallying process. Often these activities must be performed on a regular basis for budgetary purposes.

The fact that the only function performed unanimously was fulfilling special request of the superintendent seemed congruent with the notion of "putting out bush fires." Similarly five functions, devising record and report forms, conducting surveys of the school system, conducting general administrative studies, conducting federal project evaluations, and conducting enrollment studies, ($\approx$70%) were administrative in nature. On the other hand the remaining activities ($\approx$70%), guiding research studies, construction of tests and questionnaires, training individuals for research positions, conducting instructional research, disseminating research results, and developing research techniques, seemed related to applied research in the school systems.

It seemed apparent that on the basis of formal organizational structure the bureaus are highly dissimilar - almost particularistic. The most common characteristic was that of two formal levels. The bureaus, however, seemed to cover the gamut of school system divisions when they were studied for placement. The titles of position incumbents are equally diverse, as are the lines along which the bureaus are organized.

REFERENCES

Armed Services Technical Information Agency. Management of Scientific Research: A Report Bibliography. Washington: The Agency, 1962.

Carr, William. "Staff and Salaries in City School Research Bureaus." Journal of Educational Research, 29 (January, 1936), 369-371.

Chapman, Harold B. Organized Research in Education, Columbus, Ohio: Ohio State University Press, 1927, 221.

Church, Wayne. An Evaluation of Status and Functions of Research Bureaus in Public Schools in Cities of 50,000 to 250,000 Population. (Unpublished Ph.D. Dissertation, Department of Educational Administration, Indiana University, 1960).

Fattu, Nicholas. "Research Organization." Encyclopedia of Educational Research, Toronto: Collier-Macmillan Canada Ltd., 1969, 1153.

Folger, A. P. and Gordon. "Scientific Accomplishment and Social Organization: A View of the Literature." American Behavioral Scientist, 6 (December, 1962), 51-58.

Goslin, L. N. A Selected Annotated Bibliography of R and D Management. Bloomington, Indiana: Bureau of Business Research, Indiana University, 1966.

Hays, William L. Statistics. New York: Holt, Rinehart and Winston, 1963, 656-658.

Henrysen, Sten and Thunberg. Tetrachoric or Phi Coefficients in Factor Analysis. Uppsala, Sweden: Department of Psychology, University of Uppsala, 1965.

Herbst, Rennel. "Functions of Bureaus of Research." Journal of Educational Research, 24 (December, 1931), 272-275.

Hotelling, Harold. "Analysis of a Complex of Statistical Variables Into Principle Components." Journal of Educational Psychology 24 (1933), 417-441, 498-450.

Kaiser, Henry F. "The Varimax Criterion for Analytic Rotation in Factor Analysis." Psychometrika, 23 (1958), 187-200.

Lui, Bangnee. Educational Research in Major American Cities. Morningside Heights, New York: King's Crown Press, 1945, 139-147.

McKenna, John F. An Investigation of the Position of Administrator of Educational Research in Local Public School Districts in Four Midwestern Cities. (Unpublished Ph.D. Dissertation, Department of Educational Administration, State University of Iowa, 1966.

Monroe, Walter S.; Dell, Charles O.; Hervatt, M. E.; Engelhart, Max D.; and Hull, Mabel R. Ten Years of Educational Research. Urbana, Illinois: University of Illinois Press, 1928, 361.

National Education Association. Research Units in Local School Systems. Washington: National Education Association, July, 1965, 83.

Nifenecker, Eugene. "Bureaus of Research in City School Systems." The Seventeenth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1918, 52-56.

Phillips, Beemann. "Survey of Research Personnel, Facilities, and Activities in State Departments of Education." Journal of Educational Research, 51 (September, 1957), 43-45.

Rice, Joseph M. "Educational Research." The Forum, 35 (July, 1902), 124.

Ryans, David G. "Are Educational Research Offices Conducting Research?" Journal of Educational Research, 51 (November,1957), 173-183.

Scates, Douglas. "Public School Directors Look at Their Positions." Educational Research Bulletin, 17 (May 11, 1938), 115-131.

Shaw, Alve L. "Analysis of the Position of Research Director in the Public School Systems Throughout the Fifty States." Denver: University of Colorado, Report H6-8487 (Auguat, 1967), 101.

Sieber, Sam D. and Lazarsfeld, Paul F. The Organization of Educational Research. New York: Bureau of Applied Social Research, Columbia University, 1966, 364.

Symonds, Percival M. "The Organization of Educational Research in the United States." Harvard Educational Review, 27 (Summer, 1957), 157-159.

Witsky, Jonas. "The Organization and Functions of City School Research Bureaus." American School Board Journal, 96 (April, 1938), 25-27.

Zergel, William H. Research in Secondary Schools. Washington: Government Printing Office, 1933, 72.

TABLE I

BUREAU FUNCTIONS TO WHICH DIRECTORS ASSIGNED RANKS

CONDUCTING ADMINISTRATIVE RESEARCH

WRITING PROPOSALS

INITIATING EDUCATIONAL INNOVATIONS

DEVELOPING PROJECTS

DISSEMINATING RESEARCH RESULTS

CONDUCTING SYSTEMWIDE TESTING PROGRAMS

NEGOTIATING WITH FUNDING AGENCIES

CONDUCTING INSTRUCTIONAL RESEARCH

TRAINING RESEARCHERS

CONDUCTING FEDERAL PROJECT EVALUATIONS

CONDUCTING ON-GOING PROGRAM ASSESSMENTS

TABLE II

DERIVED COMPONENT MATRIX (NORMAL VARIMAX)
FOR THE ORGANIZATIONAL VARIABLES*

	I	II	III	IV	V
Enrollment	923	052	055	077	-143
School System Budget	917	054	038	-030	-134
Research Bureau Budget	947	084	-130	051	039
% Budget/Locally	022	-272	259	-596	533
% Budget/Federally	150	852	-017	283	-214
% Budget/Other	005	073	140	876	118
# Of Professional Employees	876	180	-190	-056	148
# Of Non-Professional Employees	820	136	-048	-020	011
# Of Functions Performed	097	730	044	059	331
Staff Meetings Per Year	086	102	-235	356	714
# Other Units Conducting Research	186	-024	-053	090	-631
% Computed/Locally	058	193	849	091	116
% Computed/Outside	240	180	-821	039	169
Number of Levels in Bureau	553	600	010	-330	-063
Component Variance	4.551	1.842	1.601	1.452	1.450
Percent	41.2	17.1	14.8	13.4	13.4

Percent of total variance = 77.1

* Decimal Points Omitted

TABLE III

BUREAU FUNCTIONS TO WHICH THE DIRECTORS RESPONDED

Achievement Testing (Systemwide)	.657
Guiding Research Studies	.971
Mental Testing	.428
Classifying Pupils	.228
Construction of Tests and Questionnaires	.914
Devising Record and Report Forms	.771
Conducting Surveys of the School System	.942
Training Individuals for Research Positions in Your Bureau	.714
Conducting Publicity Programs	.114
Conducting Curriculum Revision or Construction	.171
Conducting School Plant and Facilities Studies	.485
Conducting Attendance and Census Studies	.628
Conducting General Administrative Studies	.885
Conducting Instructional Research	.885
Conducting Federal Project Evaluations	.771
Writing Proposals	.571
Disseminating Research Results	.971
Fulfilling Special Requests of the Superintendent's Office and/or Other Divisions of the School System	1.000
Maintaining and Operating Data Processing Facilities	.200
Conducting School Finance Studies	.342
Conducting Studies of School-Community Relations	.400
Conducting Studies of Staff Relations	.312
Conducting Studies of Employment Practices and Working Conditions	.200
Conducting Enrollment Studies	.714
Conducting Studies of Curriculum Methodology	.371
Developing Research Techniques	.742
Conducting Studies of Guidance and Counseling	.371
Conducting Supervision Studies	.228

TABLE IV

DERIVED COMPONENT (NORMAL VARIMAX) MATRIX PHI COEFFICIENTS AMONG BUREAU FUNCTIONS*

	I	II	III	IV	V	VI	VII	VIII	IX	X
Achievement Testing	-145	281	765	-126	125	-037	154	-201	-033	-193
Guiding Studies	006	735	217	022	148	-076	-016	082	012	420
Mental Testing	201	-119	766	-142	098	010	-011	056	094	169
Classifying Pupils	169	-012	190	011	416	-018	063	-643	087	200
Test Construction	-194	442	428	-152	-005	028	-231	-257	066	415
Record Forms	140	063	017	-052	-067	056	-007	011	101	876
System Surveys	206	-139	-088	672	275	-233	-079	089	104	249
Training Researchers	121	142	066	-121	359	076	-095	812	054	142
Publicity Programs	043	-640	-220	021	105	454	031	-027	117	037
Curriculum Construction	540	151	277	284	-038	490	017	-356	-078	-048
Plant Studies	-091	-133	-025	135	038	884	-084	136	072	074
Attendance Studies	175	106	-101	292	723	320	131	-107	-172	112
Administrative Studies	-233	118	-147	758	-129	273	053	-107	230	-049
Instructional Research	195	843	-134	009	-018	100	-022	034	-060	-078
Federal Project Evaluation	354	519	-053	-345	046	-028	414	178	095	021
Writing Proposals	478	313	053	-192	105	-053	355	290	097	-058
Dissemination	080	-045	112	-035	107	-026	844	-152	131	-090
EDP Facilities	004	-025	174	-012	798	-110	051	150	148	-164
Finance Studies	127	-061	085	162	006	081	092	008	827	146
School Community Studies	544	-096	-371	-190	230	016	-066	-148	476	-130
Staff Studies	655	093	-317	-113	233	135	-037	071	445	-119
Employment Practices	324	181	245	233	-098	449	549	083	265	-204
Curriculum Methods	798	071	-189	088	054	086	147	-042	-311	146
Research Techniques	368	155	463	-081	-199	042	054	-270	-205	146
Guidance Studies	830	018	237	-075	172	-134	-010	-079	119	135
Supervision Studies	822	067	162	116	-144	-035	-021	116	247	-039
Enrollment Studies	075	-098	-091	769	105	183	-160	-088	-007	-200
Variance	3.97	2.52	2.32	2.17	1.86	1.86	1.70	1.67	1.57	1.56
Percent Component Variance	18.8	11.9	11.0	10.3	8.8	8.5	8.1	7.9	7.4	7.4

* Decimal Points Omitted

TABLE V

COMPOSITE RANKS OF FUNCTIONS
BY CLUSTERS OF DIRECTORS

	I	II	III	IV	V	VI
Conducting Administrative Research	3	2	1	9	3	3
Writing Proposals	11	10	8	7	8	10
Initiating Educational Innovations	3	3	3	4	6	4
Developing Projects	7	7	6	3	5	6
Disseminating Results	4	5	4	6	9	9
Conducting Testing Programs	6	8	7	10	7	5
Negotiating with Funding Agencies	10	11	11	11	10	11
Conducting Instructional Research	1	1	2	2	2	1
Training Researchers	9	6	9	8	4	8
Conducting Federal Project Evaluations	5	9	10	5	11	7
Conducting On-going Project Assessment	2	4	5	1	1	2
W =	.839	.500	.648	.621	.600	.597

TABLE VI

BUREAU LOCATION IN THE SCHOOL SYSTEM
BY DIVISION OR OFFICE

Assistant Superintendent Instruction
Separate Bureau
Directly Under Superintendent
Superintendent of Curriculum and Educational Research
Planning and Long Range Development
Division of Planning
Instruction
Under Deputy Superintendent
Office of Planning and Budgeting
Associate Superintendent for Development
Assistant Superintendent for Pupil Services
Assistant Superintendent for Instruction
Planning and Policy Development
Assistant Superintendent for Research and Development
Directly Under Superintendent
Services to Schools Division
Division of Pupil Personnel and Pupil Evaluation
Directly Under Superintendent
Central Supportive Services
Associate Superintendent for Educational Programs
Division of Instruction
Associate Superintendent
Assistant Superintendent of Planning, Research and Evaluation
Business Affairs and Finance
Directly Under Superintendent
Assistant Superintendent for Urban Educational Services
Division of Planning and Development
Division of Instruction
Assistant Superintendent of Research and Development
Division of Research and Planning
Assistant Superintendent for Administration

TABLE VII

ORGANIZATIONAL DIVISIONS OF THE RESEARCH BUREAUS

ESEA Programs---Local Programs
Group Testing---Statistical Services---Federal Programs
Survey Research---Special Programs
Research---Records---Information
Experimental Studies and Computer Programming---Planning and Descriptive Studies---Planning Room Data Bank
Research and Evaluation Services---Title I Evaluation---Information Services---Testing Services
Instructional Research---Early Childhood Education---Educationally Deprived Children
Educational Research---Educational Programs and Statistics---Curriculum Research
Assistant Director---Assistant Director
Federal Programs---Research and Data Processing---Editor---Title I
Special Studies---Data Analysis and Reporting---Title I---Group Testing
Federal Programs---Statistical Research---Curriculum Research
Administrative Research---Research and Group Testing---Psychological Evaluation
Administrative Research---Educational Research and Testing---Other
Evaluation---Instruction---Business Administration
Data Management---Federal Programs---Planning---Administrative Research
Testing---Survey Research---Instructional Research
School Research---City-Wide Testing
Evaluation---Research---Testing
Records and Statistics---Systems and Procedures---Data Processing---Pupil Personnel---Instructional Research